Application No.: 08/995,715 9 Docket No.: 00971/000D319-US0

REMARKS

Claims 48-50, 52, 55-61, 63, 67-69, 71, 73 and 75-79 are of record. All claims stand rejected under 35 U.S.C. §112.

The Office Action is responded to by corresponding paragraph numbers.

- 1. The acceptance of the Substitute Specification submitted on April 4, 2003 is noted. This is referred to hereafter as the "SS".
 - 2. No comment needed.
 - 3. Drawings. A number of objections are made to the drawings.

The drawings submitted on April 4, 2003 have been disapproved as introducing new matter. The comments made by the Examiner appear to be more directed to a lack of specificity in the drawings.

The set of drawings at issue are those submitted on April 4, 2003 (hereafter called 04/04/03 drawings). The 04/04/03 drawings are basically formal versions of the drawings filed on February 1, 2000 (hereafter called "02/01/00 original drawings". Minor changes were made to the 02/01/00 original drawings as discussed in the correspondence beginning with the Office Action dated August 17, 2001 through the Office Action of April 26, 2002. In the Office Action of January 15, 2002, the Examiner indicated at page 2, point 3: "Figs, 3, 5, 6 are acceptable, and that Figs. 1, 4a), 4b) would be acceptable but need to be redrafted". At the time of the April 26, 2002 Office Action all of the drawings were accepted, except for Fig. 2.

A comparison of the drawings at the time of the Office Action of January 15, 2002 and the 04/04/03 drawings under consideration show that the principal change made was the elimination of Fig. 2 of the 02/01/00 original drawings. Figs. 3, 4, 5(a), 5(b), 6 and 7 as they existed on January 15, 2002 were renumbered as Figs. 2, 3, 4(a), 4(b), 5 and 6. Minor changes were made

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in changing Fig. 1 screen 1 shape and Fig. 3 cable 3 shape (by Examiner's demand) and redrafting the rest of the Figures according to USPTO rules.

To summarize the rejection in the Office Action of July 1, 2003, to which this response is directed, the Examiner indicated at page 2, point 3 that Fig. 1 shows a curved screen 1 and curved cable 3; elements 6 partially covering the viewing plane and fails to show block sequence; Fig. 4b) does not show parallel scanning; Fig. 5 shows a light beam; and Fig. 6 shows an improper shape and orientation of element 18 and lenses 23.

Applicant's attorney notes in general 35 U.S.C. §113, which states that applicant shall furnish a drawing "where necessary for the understanding of the subject matter to be patented". Also, see 37 CFR 1.83 which states that each element <u>claimed</u> must be shown in the drawings.

Thus, the drawings are to be an aid to the understanding of the subject matter of the invention. As part of the original disclosure, they should be construed using the eyes and with the knowledge of a person of ordinary skill in the art. The drawings do not have to illustrate a device that would be operative.

Applicant's attorney is making an earnest attempt to satisfy the Examiner's questions relative to the drawings. Applicant's attorney would be willing to make any reasonable changes that the Examiner might consider to be necessary.

The various points raised by the Examiner are discussed.

Fig. 1. (a) Shape of screen 1. In the 02/01/00 original drawings, Fig. 1 showed a rectangular shape of screen. The Examiner had previously objected to Fig. 1 for not showing the curved shape and now the Examiner objects to the curved shape. The shape of screen 1 is not essential since screen 1 is a conventional element. In practice, a conventional CRT, sometimes even a so-called "flat screen", has a certain amount of curvature. The screen 1 of Fig. 1 can just as well

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be shown by a labeled representation (block) of a screen. Applicant would be willing to amend Fig. 1 to show the rectangular screen of the 02/01/00 original drawings if the Examiner so requests.

- (b) Curved cable 3 The 02/01/00 original drawings showed a cable 3 whose end was curved leading into the polarizer 4. The 04/04/03 drawings correspond to this. Actually, the curve of cable 3 is not essential since the cable is a conventional element, e.g., fiber optic cable, that is used only to conduct light from a start point to an end point. The cable shape is not claimed. It is known that fiber optic cables can be made flexible.
- (c) BDS elements. This point is not understood. The schematically shown matrix of BDS elements 6 is comprised of "discrete type deflectors" (see the SS, page 5, line 7; SS, page 10, next to last line) or light dividing elements (SS, page 15, 4 lines from bottom). Such elements naturally have gaps between them. While the gaps between the blocks in Fig. 1 appear large, the drawing is made to illustrate the invention and not to provide an operating embodiment, i.e., how it would look in practice. A drawing does not have to be to scale.
- (d) Sequence Block Sending. The Specification describes both parallel and sequential sending of the blocks. Fig. 1 is a general structure for both. The BDS elements have different structure for each of the methods mentioned (this is described in the Specification). Also, the claims of the application do not specifically claim sending the blocks in sequence.

Fig. 2 - The Examiner questions:

- a) the orientation and shape of the acoustic optical deflector 12;
- b) the orientation and shape of the light conductor 3';

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c) the orientation of the focusing cone 11.

First of all, none of the features a)-c) are specifically claimed.

- a) The acoustic optical deflector 12 is a schematic representation with conventional elements shown in block form and having reference numerals which are referenced in the SS.
- b) Applicant would be willing to submit a new Fig. 2 which corresponds to Fig. 3 of the 02/01/00 original drawings. This shows a curved cable 3'. But the cable shape is not really part of the invention and as discussed above, the cable is a conventional element and can be of any shape.
- c) The Examiner states that the shape of the cone 11 would produce distorted raster elements. Applicant again notes that the drawings are to be used as an aid in explaining the invention. A person of ordinary skill in the art would provide the necessary shaped cone when making the physical product.

The point directed to the "orientation" of each of the acoustic optical deflector 12, the light conductor 3' and the focusing cone is not understood.

Fig. 2 is to show only a general representation to aid in the understanding of the invention.

Fig. 3. Accepted

Fig. 4(a). Accepted

Fig. 4(b). The Examiner's position is that Fig. 4(b) does not show how all of the constituent blocks of the image plane are scanned together in parallel. The lens raster matrix is a conventional device. Each lens of a matrix forms the image of screen 1 thus forming copies of

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screen 1 in parallel.

The Examiner questions the direction of the light beam 7. The specific direction angle of the light beam is not claimed. The illustrated Fig. 4(b) shows the beam at almost 90° to the screen. Again, this is for purposes of illustration.

Fig. 5. - what is shown in schematic block diagram form is a conventional device - "quantoscope". In such a device, a cathode ray beam emitted from a source (19) scans an active element plane (21) causing light to be emitted from that plane, having "an output having a resolution equal to that of the block of an image plane" (i.e., matrix light beam). Reference is made to page 12 of the SS. It is respectfully submitted that Fig. 5 is sufficient.

Fig. 6. The Examiner questions the shape of the light dividing matrix elements 18 and the lenses 23 as not being the holographic elements. This is not entirely understood. Page 16, 4 lines from the bottom of the SS describes the elements of Fig. 6 and calls for "23 - focusing element" whose function is described at page 18, line 16 of the SS to focus the picture forming light 7.

Fig. 6 is a redraft of Fig. 7 of the 02/01/00 original drawings. In the 04/04/03 drawings, Fig. 6, the tilt of one of the mirrors 18 was changed (by a draftsman error) from that shown in the 02/01/00 original drawings. An amendment to Fig. 6 is enclosed, which corrects this error.

It is respectfully submitted that the 04/04/03 drawings with the amended Fig. 6 are proper. Applicant's attorney again repeats his willingness to make any reasonable changes that

would satisfy the Examiner's objections.

Specification. The typographical errors noted by the Examiner (last 4 lines of page 4 of the Office Action) have been corrected.

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4. Claims 48-50, 52, 55-61, 63, 67, 69. 71, 73 and 75-79 are rejected under 35 U.S.C. §112, second paragraph, as containing subject matter not described in the Specification in a manner that would convey to one skilled in the art that the inventor had possession of the claimed invention at the time the application was filed.

Applicant notes that in the Office Action of January 15, 2002, claim 57 was allowed. Claim 48 was objected to due to the language informality "one or more pixels".

The claim rejections are addressed in the order made.

<u>Claim 48, lines 2-4</u>. The claim recites a two dimensional array of N pixels. From this array, a plurality of raster elements are generated and not just a single pixel as the Examiner seems to understand.

Claim 48 has been amended to make it clear that each of the plurality of raster elements generated from the two dimensional array of pixels has at least one pixel. Claims 57 and 69 have been amended in a like manner.

<u>Claim 49</u>. The Examiner contends that the Specification does not support the claimed subject matter of the plurality of modulators. Claim 49 has been canceled since the claimed subject matter (plurality of modulators) appears in its parent, claim 48 (array of modulators).

<u>Claim 48, lines 11-12; claim 57, lines 14-16; claim 69, lines 10-11</u>. The Examiner contends that the claimed array of modulators is not supported by the Specification.

Applicant refers to page 15, lines 16-19 of the SS, which reads as follows:

In the case of image forming, there should be additionally used a space-time modulator - a matrix comprising an array of light modulators - placed between the image plane and the BDS matrix in order to independently modulate (gray scale, hue, etc.) the raster forming light in each block.

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Reference is also made to page 17, line 17 to page 18, line 4 of the SS. Applicant respectfully submits that there is adequate support.

Claims 56, 60, 75 and 77. These claims claim "dots per inch", which the Examiner contends was not in the Specification as originally filed. The Examiner is correct. The SS, at page 8, lines 9-13, refers to increasing the brightness and density of the pixels. Claims 56, 60, 75 and 77 have been amended to correspond to this.

Claim 68. This claim has been canceled.

- 5. <u>Claim 71</u> and its dependent claim 55 are rejected as being indefinite. Claim 71 has been amended to use the term "said M", as suggested by the Examiner.
- 6. No further response needed. See the comments relative to the drawings in Paragraph 4.
- 7. The Examiner notes that the "array" limitation of clause (c) of claims 48, 57 and 69 is necessary to distinguish over the Furness patent. This feature is retained in the claims. Further, applicant notes that Furness lacks an image multiplying matrix to separate one pixel beam into a plurality of separately modulated pixel beams. This provides a further basis for patentably distinguishing over Furness

Accordingly, applicant respectfully submits that:

- 1. The objections/rejections to the drawings have been overcome.
- 2. The §112 rejections to the claims have been overcome.

In view of the above, and since no prior art has been cited against the claims, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Applicant's attorney thanks the Examiner for his courtesy in the prosecution of this application.

Applicant's attorney would welcome a telephone call from the Examiner to resolve any unanswered questions or outstanding issues.

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Prompt and favorable action is requested.

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